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PAPERS

IN

MECHANICS.

No. I.

CARPENTERS' PLANE.

The sum of FIVE GUINEAS *was this session given to Mr.* G. GLADWELL, *Lower Garden-street, Vauxhall, for a* PLANE FOR CARPENTERS; *a model of which has been placed in the Society's repository.*

THE object of the candidate, who is a working carpenter, has been to make one plane answer the purposes of the jack-plane, the pannel-plane, the smoothing-plane, and the moulding-plane. This he effects by having the bottom, or sole, of the plane moveable, being attached to the body of the instrument by means of a dove-tail groove. The workman, therefore, by being in possession of eight soles, flat, convex, or concave in different degrees and directions, and of five irons, with one stock or body, has an equivalent for eight separate planes, whereby an advantage is gained both in point of expense and also of portability. It is true that some time will be lost in changing the soles, when a man has to pass frequently from one kind of work to another; but after every reasonable deduction has been made on this account there appears to remain a fair preponderance of advantage in favour of the invention. Care must be taken that the wood employed for the soles is perfectly seasoned, otherwise they may warp, and make inaccurate work.

The following are the directions of the inventor relative to the construction of the plane.

Let one-third of the height of the plane be the thickness of the sole, having a dove-tail fillet (worked in solid, or glued and screwed on,) about three-eighths of an inch thick and two inches wide. In the upper part of the body of the plane make a groove for the fillet to slide in. The sole slides in from the front part of the plane, and secures itself against two brass stops or plates, one screwed on the back part of the plane, the other on the sole in front. The one on the back part answers for all the soles that may be fixed; but each sole must have one in front.

Reference to the figures.—Plate I.

THE same letters of reference denote the same parts in all the figures.

Fig. 3, A side view of the plane; *k k* the sole or bottom portion of the plane fitted to the upper part *l l* by a longitudinal dove-tail *m m,* shown by dotted lines; *n* a plate of brass screwed to the bottom piece *k,* to prevent its going too far, and *o* a plate of brass screwed to the upper portion *l l,* to stop the end of the dove-tail.

Fig. 4, An end view of the upper and lower pieces separate, to show the dove-tail and groove.

Fig. 5, A concave sole.

Fig. 6, A convex sole, with the brass plate *n* screwed on.

Fig. 7, A longitudinally convex sole.